



# SUBSTITUTE SPECIFICATION

## COOLING CONSTRUCTION OF TRANSITION PIECE OF A GAS TURBINE

### Technical Field

The present invention relates to a construction that cools the outlet of a transition piece of a gas turbine by using cooling air.

### Background Art

Conventionally, gas turbines have transition pieces installed thereto for leading combustion gas of high temperature and high pressure generated in a combustor to a turbine portion efficiently. The inlet portion of such a transition piece has a configuration so as to be connected to a combustor basket where combustion gas is generated, while the outlet portion thereof is configured so as to be connected to a flow path of the turbine. The shell portion of a transition piece has a welded construction in which plates having cooling holes are combined. Furthermore, the outlet portion has a rib mounted thereon for reinforcement.

Additionally, a transition piece seal is arranged to each of the inside diameter side and the outside diameter side at the outlet of the transition piece, thereby restraining leakage of the cooling air from a portion connected to the turbine portion. In this way, by introducing the cooling air to the outlet portion of the transition piece and by preventing the cooling air from leaking with the transition piece seal, the outlet of a transition piece is cooled by using the outlet air of a compressor. The construction of a conventional combustor of a gas turbine will be explained again hereinafter by referring to the drawings.

FIG. 8 is a schematic drawing showing a conventional combustor of a

*Substitute  
spec, abstract  
approved  
RL  
6/5/07*